

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) An electrorheological ~~device comprising an~~ electrorheological fluid and electrode configuration having clutch according to claim 3, wherein said electrodes are in motion relative to said electrorheological fluid and arranged such that an electric field is generated having a significant component parallel to the direction of an anticipated external stress field.

2. (Currently Amended) ~~A device~~ An electrorheologica clutch as claimed in claim 1 wherein said ~~electrode configuration comprises a~~ plurality of positive and negative electrodes are formed on an insulating substrate, said electrodes being disposed on said substrate so as to provide a series of equidistantly spaced alternately positive and negative electrodes in ~~[[the]]~~ said direction of an anticipated external stress field.

3. (Currently amended) An electrorheological clutch comprising, a cylindrical ~~drive member~~ housing, a cylindrical ~~driven member~~ rotor provided within said cylindrical housing and adapted to rotate about an axis of rotation, first and second electrode at opposite ends of said rotor, and an electrorheological fluid disposed between said drive member housing and said driven member rotor, wherein said clutch further comprises an electrode configuration a plurality of strip electrodes that extend from said first and second electrodes on the outer surface of said cylindrical rotor toward the other of said first and second electrodes parallel to said axis of rotation and spaced equidistantly about said axis of rotation such that positive and negative electrodes alternate about said axis, for generating an electric field, said electrode configuration being such as to generate a significant component of said

electric field perpendicular to an axis of rotation of said drive and driven members, and parallel to the surfaces of the drive and driven members.

4. (Canceled).

5. (Currently Amended) A clutch as claimed in claim ~~[[4]]~~ 3 wherein the spacing between the rotor and the cylindrical housing is of the same order as the spacing between the strip electrodes.

6. (Canceled).

7. (Currently Amended) A clutch as claimed in claim ~~[[6]]~~ 3 wherein strip electrodes parallel to the axis of rotation are additionally provided on the inner surface of the cylindrical housing.

8. (Currently Amended) A clutch as claimed in claim ~~[[6]]~~ 3 wherein the strip electrodes extending from the first electrode toward the second electrode, and the strip electrodes extending from the second electrode toward the first electrode are of equal length and are equally spaced from each other.

9-14. (Canceled)

15. (Previously Presented) The clutch of claim 3, wherein said electrodes are cup-shaped.

16: (Previously Presented) An electrorheological clutch comprising;
a cylindrical drive member;
a cylindrical driven member and an electrorheological fluid disposed between said drive member and said driven member;
an electrode configuration for generating an electric field, said electrode configuration being such as to generate a significant component of said electric field

perpendicular to an axis of rotation of said drive and driven members, and parallel to the surfaces of the drive and driven members; and

a cylindrical rotor provided within a cylindrical housing, said rotor being adapted to rotate about said axis of rotation, and said electrode configuration comprising a plurality of strip electrodes parallel to said axis of rotation and spaced equidistantly about said axis of rotation such that positive and negative electrodes alternate about said axis,

wherein said cylindrical rotor is provided at opposite ends with first and second electrodes, and wherein said strip electrodes extend from said first and second electrodes on the outer surface of said cylindrical rotor toward the other of said first and second electrodes, and wherein strip electrodes parallel to the axis of rotation are additionally provided on the inner surface of the cylindrical housing.